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ABSTRACT

Educational change is a process occurring through time, a systemic and dynamic phenomenon in which every action leads to reactions in related areas of the system, and a multidimensional phenomenon requiring examination from the perspective of several disciplines. The success of an innovation depends on how the change process is managed, how the elements of the systems involved relate to each other and affect the dynamics of change, and how thoroughly the theories and hypotheses of the different disciplines studying change are understood, interrelated, and applied. International Management Training for Educational Change (IMTEC), a European organization, has developed a framework for analyzing educational change incorporating the concepts used in such disciplines as economics, anthropology, sociology, psychology, administrative and organizational science, and pedagogics, providing illumination on the major characteristics of the change process and its conflicts. This document discusses this framework for analysis, covering such topics as the definition of educational change, four popular models of change, a newly devised model, several barriers to change, organizational concerns affecting change, and systemic factors to consider whenever preparing for adoption of new organizational structures. (Author/PGD)

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INTERNATIONAL MANAGEMENT TRAINING FOR EDUCATIONAL CHANGE

(IMTEC)

TRAINING FOR CHANGE

International Programme for
Teacher Training Institutions

# CHANGE THEORY

by

Per Dalin

Draft
Oslo, 26th February, 1976

EA 012 460

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# CHANGE THEORY

by

Per Dalin

## INTRODUCTION

This paper has been developed to give you some information about the theoretical assumptions made in the work with IMTEC case studies, Management Analysis Papers and the GIL. Our change theory is developed through the study of innovations in a number of schools and school systems in Western Europe and North America, and through reading and analysis of existing research on change, both in education and in other sectors. Our perspectives on educational change includes the following:

1. Change is a "process" phenomenon: Change takes place over time. It can be evolutionary or revolutionary in nature and it involves a number of stages involving individuals, institutions and sub-systems. The success and failure of an innovation will, to a large extent, be dependent on how this process is managed.

2. Change is a systemic and dynamic phenomenon: Any change in a social system is like a chain-reaction. Individuals, organisations, and interest groups are linked through formal and informal connections which are influenced by external forces. The successes and failures of educational reforms are, to a large extent, dependent on the relationships and strengths of these forces over time and the way the change process is managed to cope with the systemic and dynamic nature of the situation.

3. Change is a multi-dimensional phenomenon: Social and educational change can only be fully understood using different perspectives including the different discipline perspectives. A number of theories and hypotheses from disciplines such as economics, anthropology, sociology, psychology, administrative and organisational science and pedagogics are important in understanding the many dimensions of the process of change.

The situation today is that we have no easily agreed upon framework for studying educational change. If change is studied from a single discipline insufficient understanding results. A manager needs a comprehensive understanding to be able to act and facilitate the process. From the IMTEC case studies, a framework for analysis has been developed which can illuminate the major characteristics of the process and its conflicts from several disciplines. It is rather a method by which underlying forces and conflicts can be studied and discussed.

Any framework for analysis is based on hypotheses of causes and effects in the change process. Although there are obvious similarities from country to country and innovation to innovation,

the composition of the various forces that operate in a given situation will differ. The strengths and the characteristics of these forces, and the way they interact, will most likely determine the "success" or "failure" of the innovation in any given culture.

## THE MEANING OF EDUCATIONAL CHANGE

The terms educational change and educational innovation have been used in the literature, meaning more or less the same. In another context we have discussed the different meanings of these terms in more detail (Dalin, 1973). The distinction between the two terms has usually been that by change one means any alteration in a situation from one point of time to another, and by innovation one means an improvement of practices from one point of time to another (often implying a "novelty"). We find this distinction rather artificial and unimportant. In this context we will therefore talk about educational change and educational innovation as being synonymous, meaning "a deliberate attempt to improve practice in relation to certain desired objectives".

Several explanations have to be given to make such a definition useful:

1. The definition does not exclude changes or innovations that are also concerned with the shaping of new objectives, policies, or functions not related to old objectives. Some studies of educational innovations are concerned with relatively small adjustments of old practices, replacing them by new methods, organisational arrangements or personnel policies. The innovations are not concerned with a redefinition of the old objectives. In our opinion this has partly resulted in the development of "consensus models" of change, probably appropriate for these kinds of changes but clearly inadequate in other situations.

2. The term deliberate attempt is usually the same as a planned attempt. By planning, however, we do not necessarily imply one specific model of planning, for example a centralistic planning model. Neither do we imply that educational change always originates in a "planning-research-development-diffusion process" (Dalin, 1973). Some innovations may well be just deliberate policy decisions based on practical experience. In most cases, however, as seen in several of the studies made by CERI and IMTEC, the process of innovation does imply a complex interplay of activities including most of the steps usually mentioned under a "planning-research-development-diffusion" process.

3. We have included in our definition a specific qualification, i.e. that the change is something better than what it replaces. This is particularly true for the way in which the term innovation is used. The question, however, is "better" for whom? Is it possible to imagine innovations that are better for everyone, that every individual or group will benefit from the innovation process? If someone does not benefit, is conflict

then inevitable? Innovation, as we have defined it, may well mean improvement for some (e.g. students) but may not alter conditions for others (e.g. other students or teachers); and it may even worsen conditions for others (e.g. parents, state finance, or even other students).

4. Our definition also says that certain objectives are desired. The question, of course, is, desired by whom? Present objectives are often unclear. People have different understandings of the stated objectives. Many objectives, if one analyses them in depth, are in conflict with each other. In educational change, it is even harder to define objectives, to get an understanding of the objectives and also to get consensus about what is desired.

5. Another complication, which is not stated in the definition, is the question of who has to change? There is no significant change without changes in attitudes or behaviour. This is particularly true for changes in social systems. An innovation might be looked upon as desired in general but impossible if it implies that I have to change! What is looked upon as an innovation, therefore, depends on the interest groups in the system and their relation to the social costs involved or the relation between their benefits and the "costs" they have to pay to be a part of the change effort.

6. Lastly, a complication that has not been taken into account in our definition is the problem of decision-making. The question of who is deciding is crucial. The "ownership" problem to an innovation is significant, not only because it might illuminate why and how the innovative idea has been created but also because it might tell us something about the possibilities for successful implementation and dissemination in the system. In other words, deliberate in our definition should mean planning that looks into a well-thought-out innovation as well as a well-thought-out process of change that has some possibility for implementation.

Many attempts have been made to establish a systematic typology of educational innovations. We are running into one particular problem since our definitions ought to be useful in most countries in Western Europe and North America. Needless to say, it is hard to find a categorisation that is, on the one hand, clear enough, and, on the other hand, broad enough to include the many attempts of educational change. In addition, it is not possible to draw rigid lines between activities. Changes in complex social systems are highly interrelated. We therefore have to look for the main intended objectives of an innovation when we make up a "typology". We find it practical to go back to the four main categories of educational innovations that were established for the CERI case study project. In all categories there is a distinction between activities in the overall educational system (called the general level) and activities at the individual school level and its environment (called the institutional level). The categories are the following:

Category 1: Objectives and functions

Innovations mainly concerned with the objectives and functions of the school in the broader social and economic context.

(Examples are: Scandinavian comprehensive school reforms, "Model City" programmes in the United States.)

Category 2: Organisation and administration

Innovations mainly concerned with the organisation and administration of the educational system (also included here are the control, the finance, the decision-making and general logistics).

Category 3: Roles and role relationships

Innovations mainly concerned with role definitions and role relationships. There are clear relationships to Category 2, but the object is not to improve techniques and procedures but to improve the roles which individuals perform and the relationships between individuals and among groups.

Category 4: Curriculum

Innovations mainly concerned with curriculum, its aims, content, methods, evaluation, material and internal organisation of instruction.

## MODELS OF EDUCATIONAL CHANGE(1)

There are currently four models of change popularly employed in the design and analysis of innovation and dissemination strategies: The Research and Development (R & D) model; the Social Interaction Model; the Problem-Solving Model; and the Linkage Model. In our view, each of these models suffers from absence of relevant theory of change and also fails to accurately reflect the reality of innovation at the institutional or local level. Although each of these change models offers useful insights, each is also deficient in some important respect.

The Research and Development Model focuses on a rational sequence of goal setting, planning, implementation, evaluation and diffusion. This model assumes that the "consumer" is more or less passive and "ready to buy" if the new product seems reliable and congruent with his educational needs. The failure, however, of past

(1) This section is to a large extent taken from: Dalin and McLaughlin Strategies for Innovation in Higher Education, Council of Europe, 1976 (in print).

demonstration efforts, as well as data that suggest decisions to adopt (or reject) an innovation, are seldom made on the prima facie merits of the innovation, and raises serious questions about the effectiveness of a predominantly R & D approach to the promotion of innovation and improvement of institutional practice (e.g. Miles, 1964; Coleman, 1972; Rein, 1970; Dalin, 1973; Berman and McLaughlin, 1974, 1975).

Further, the observation that successful implementation in the instance of higher education will probably involve a process of mutual adaptation, and that innovative projects tend to "mutate" between settings and over time within settings, raises questions about the appropriateness of highly centralised, rationalistic development as well as the expectations of developers. The skepticism of local adopters or implementors concerning "outside" innovation further undermines the expected effectiveness of an R & D approach to change, as does the short time horizon imposed on adopting institutions. Few universities have the resources or the time to engage in full-scale development efforts - refining, testing, and evaluating proposed innovation. In addition, R & D approaches to change tend to accompany "top-down" change strategies - strategies that ignore the critical importance of local values and initial commitment and support - or the consonance necessary to significant and successful change.

When we study the <u>implementation</u> of educational change, we observe that many centrally planned and developed innovations break down when they are disseminated into ordinary schools. This might be explained by the lack of understanding on behalf of the "innovators" of local settings and their heads. It might, however, be the results of more basic problems in the change model itself. Some have observed that innovators "have little to risk and much to gain" while the followers have "much to risk and little to gain". The innovators very often get a lot of support economically, professionally and politically for their activities. They are well paid, get their names on publications and get a number of other rewards. The ordinary teacher and the "follower - institution" has very little support politically, economically or professionally. In fact, when the innovation is already developed, there is very little interest in what happens to the school system at large. It might be true that "experimentation vaccinates against diffusion"! We believe that it is the basic assumption behind this change model that does not fit with the realities of social systems.

A second framework, the <u>Social Interaction Model</u>, originated primarily in the tradition of rural sociology, and focuses on patterns of diffusion. It assumes that information in and of itself is a major source of motivation to try a new idea. Exposure to information about a "better" practice, particularly where awareness is generated through personal contacts of reference groups, is expected to lead to trial and evaluation. But the Rand Change Agent Study (Berman and McLaughlin, 1974) found that personal contacts were generally important only <u>within</u> the district, and that local educators seldom undertake the "trial" stage assumed by the social

interaction model. There are simply insufficient resources to do so. This study found that local practitioners generally did not experiment and that evaluation or "evidence" played only a marginal role in local decisions to continue or adopt an innovation undertaken with federal "seed" money. Further, particularly for changes of the type proposed for higher education, available evidence suggests that information in and of itself does not create demand where demand for change does not exist.

The social interaction model of change also assumes a level of institutional and peer interaction that is unusual in primary and secondary education, and even more rare in the self-contained institutions of higher education.

In highly centralised countries innovative efforts within an institution would be supported by external groups (political, economic and professional). This is, however, seldom the case with innovative efforts that start within an institution. These groups are also often isolated from the main stream of interest within the institution and many worthwhile efforts die because of lack of support, from both within and from the environment.

A third model, the Problem-Solving Model, locates motivation to adopt a new practice in a "felt need to change". This model casts innovation in a diagnostic frame and emphasizes search and selection. However, there was little in the Change Agent data (Berman and McLaughlin, 1974) to indicate that practitioners searched outside of their district for new ideas, even when new practices were sought in response to a felt need. Other studies raise questions about the frequency of local problem solving in itself. They suggest that pressure for change is typically initiated outside the school rather than by assessment of local educational needs (e.g. Fullan, 1972; Sarason, 1971; Bennis, Benne and Chin, 1969; Wirt and Kirst, 1972). This certainly appears to be the general case in higher education.

The fourth model currently used by planners and policy makers is the Linkage Model (Havelock, n.d.). This model connects "felt user need" to a social interaction, research and development framework. The linkage model in our view overestimates or misrepresents the role that outsiders can play in motivating and advising local practitioners. The advice and suggestions of "outside experts", according to the Change Agent Study and other research, are typically viewed as "foreign" and not responsive to local needs or conditions. Change strategies following this model frequently rely too heavily on "imports" (either individual experts or particular fully developed products), and in so doing foreclose important individual and institutional opportunities to learn and develop, or to incorporate the change as their own.

Thus, many of the assumptions central to each of these conceptual models find only limited support in the reality of local behaviour or in the process of innovation expected to accompany post-secondary reform. One general lesson that is suggested by the

failure of past efforts to promote planned change, as well as the empirical evidence on adoption and educational change, is that information about better practices is not "self-winding". Merely developing and demonstrating promising practices, or simply making more and better information available, does not appear to be sufficient to the promotion of wide-spread adoption. This history and the more recent empirical work on innovation also indicates that a more realistic understanding of the nature of local "demand" and the character of the institutional setting will be central to the design of an innovative strategy.

Furthermore, the value-dimension, or political dimension of social change is usually overlooked or blurred in these sociological and organisational-psychological models. As our definition of change indicates, the question of benefits for whom, decisions by whom, and change by whom is crucial to our understanding of change.

Alternative Conceptualisation. Because of the importance of the institutional setting, and the particular implementation problems each local implementor must face, the most difficult part of the problem of innovation has to do not with pre-adoption behaviour, but with post-adoption behaviour, or with the process of implementation. Almost all of the analytical case studies of innovation conclude that implementation problems dominate the outcome and the success of innovative projects, the decision to adopt is only the beginning of a process that exhibits a high degree of instability and variability. In sum, the nominal adoption of an innovation cannot be assumed to provide an accurate forecast of its actual implementation or use. Consequently, because the current conceptual models of change focus on adoption, and the decision to adopt (or reject) an innovation, they are of extremely limited use in guiding the efforts of planners or administrators in their efforts to bring about the complex, central, value-laden - and inherently political and local - change necessary to post-secondary reform.

In our analysis of existing ways to conceptualise educational innovations, we concluded that present models are inappropriate and also ineffective in guiding the efforts of reformers. We believe that it is in the stage of implementation where most innovations break down. There is no "efficient", easy, manageable or entirely predictable strategy for innovation in education, in part because the "best" strategy will vary according to the specifics of the institutional setting. To be able to define alternative strategies for innovation we need to look at the criteria for success articulated by many policy-makers. The two most dominant existing strategies define success as part of the following processes:

1. The "top-down process": Success can be assessed as the degree to which a centrally decided and developed innovation is adopted and used by individual institutions. This assumes a process of change that is one-sided, directed from political and administrative bodies outside the institution, which is looked upon as a receiver of innovations. The degree to which the innovation is used will be dependent on the responsiveness and

ability of the institution to adopt the practices. Innovative ideas and objectives planned centrally should, according to this model, have clear consequences for practice and any discrepancies between the ideas and practice would indicate problems in the implementation process.

2. The "institutional-based process": Success according to this perspective is based on the assumption that each individual institution is responsible for adapting and using any idea coming from central authorities or from other sources for its own renewal. The degree of implementation would, in this case, be a measure of the ability of the institution to understand and successfully deal with its own development needs, create and/or adopt and adapt innovations on a continuous basis. Success in other words would mean the degree to which the institution is able to improve its own practice in response to crisis and problems experienced by individuals and groups within the institutions.

We understand the process of innovation as a combination of the two processes mentioned above. We see the process as continuous development implying both consensus and conflicts within the system. We have introduced an orientation that we call the "mutual development and adaptation process". In this perspective the individual institution is looked upon as a creative unit in a larger system of institutions.

Successful implementation would mean the ability of the institution to be responsive to centrally or externally developed and/or directed innovations, on the one hand, and, at the same time, the ability to develop a creative growth and improvement process within the institution itself. The process of implementation therefore is a process characterised by dialogue between the institution and its environment, in particular between the institution and central administration. Degree of implementation in this case would not only be a measure of the degree to which the institution, as a unit, adopts centrally developed innovations and at the same time takes care of its own development needs, but also the extent to which central units (e.g. political units and administrative units) adapt themselves to the continuous demand and creative processes within the institution. In other words, to what extent the total system is responsive to the needs for development. This might imply consensus, or compromise-building, in which some might benefit more than others. Often it implies that certain aspects of an innovation are adopted and implemented while other parts are omitted. In the process of mutual development and adaptation, the innovation undergoes change. In addition, the structure, strategies and people involved in the process also change. In some cases it is legitimate to reject a demand for change, but a responsive and innovative system would confront the issues and create a process by which alternative approaches can be developed.

The Process Implies Continuous Development. Research that has been carried out within the OECD, through CERI and IMTEC(1), and in other organisations, i.e. the Rand Corporation (McLaughlin and Berman, 1975) is conclusive on one point: successful implementation means mutual adaptation. The CERI case studies (Dalin, 1973) show that institutions do not adopt innovations, neither do they create them. Institutions adapt and develop innovations and use resources from institutions and people outside the institution.

Innovations that are simply accepted from outside and adopted are very rare. If such situations exist, they do not seem to produce a continuous process of renewal within the institution which seems to be a necessary condition if innovations shall have any meaning. Seymour Sarason says: "the more things change, the more they stay the same!" One type of practice is simply replaced by another, but behavioural and programmatic regularities are not altered in any significant way. We assume that this will be true also in institutions of higher education.

Finally, as one alternative way to view the problem of innovation, we would propose a matrix in which one can study the capacity of a system or an institution for mutual development and adaptation. The model implies two processes as briefly discussed above (Dalin, 1975).

The institution's creativity. The ability of the institution to identify its own development needs and organise a process of self-renewal is difficult to study simply because it is hardly expressed and consciously understood. In spite of this problem, it is possible to understand several aspects of the process by discussing the situation with the various interest groups involved within the institution and external to the institution. Although we do not imply that there is a linear process of development, the following steps might be seen as increasing signs of a creative process(2).

1. Individuals within the institution are conscious of their own needs for renewal.

2. Sub-groups within the institution have expressed needs for changes which are common to other sub-groups or in conflict with the needs of other sub-groups.

3. The institution as an institution has been able to adopt a plan for renewal and is developing motivation for institutional growth.

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(1) On request, a series of cases, papers analysing change and other relevant publications can be obtained from CERI and IMTEC.

(2) We have no support for this "stage-by-stage process" in the literature. Further research is needed to clarify the various stages and processes.

4. The institution is developing its capacity or ability for self-development.

5. The institution is actually managing a self-renewal process, with or without external help.

6. The institution has an on-going programme of self-renewal and is assessing and redesigning its own renewal programme.

The institution's adaptation process. The other dimension that should be studied is the ability of the institution to use the innovations from the outside, including the innovations proposed and introduced by central authorities. The ability of the institution to implement innovations from the outside is difficult to identify but the following steps might again be helpful:

1. Individuals within the institution have knowledge about the external innovative ideas and concerns (political, economic, social, educational).

2. Individuals within the institution are motivated to implement external innovations and are actively seeking information to get a clearer understanding of what the new ideas mean to them.

3. Knowledge is shared among individuals and sub-groups within the institution and motivation to implement outside innovations is growing and developing within the institution.

4. The institution is developing its capacity and ability to use the external innovation.

5. The institution is successfully managing the externally developed innovation.

6. The institution has an on-going implemented programme, is being evaluated and is willing to redesign and improve its own practices according to external demands.

These two processes can be expressed in the figure below and the degree of mutual development and adaptation can be expressed by the position an institution has in the two dimensional scheme.

The capacity of institutions to innovate can be described by its placement on the figure. Examples of institutional characteristics and how these can be used to place the institution on the implementation capacity chart are described below:

Position (low, low): The institution has an extremely low capacity for innovation, both for internal and external innovations, and there are major problems for both internal and external innovations to succeed. Time will be an important factor for the institution if changes are going to take place. This position could be called maximum maintenance of the status quo.

Position (low, high): The institution has a low self-awareness, low degree of ownership of the innovation, high dependency on external assistance, high degree of adoption (not adaptation), most likely a high congruence of values between the institution and the external forces. Usually that which comes from people and institutions higher in the hierarchy is accepted. This position could be called maximum adoption.

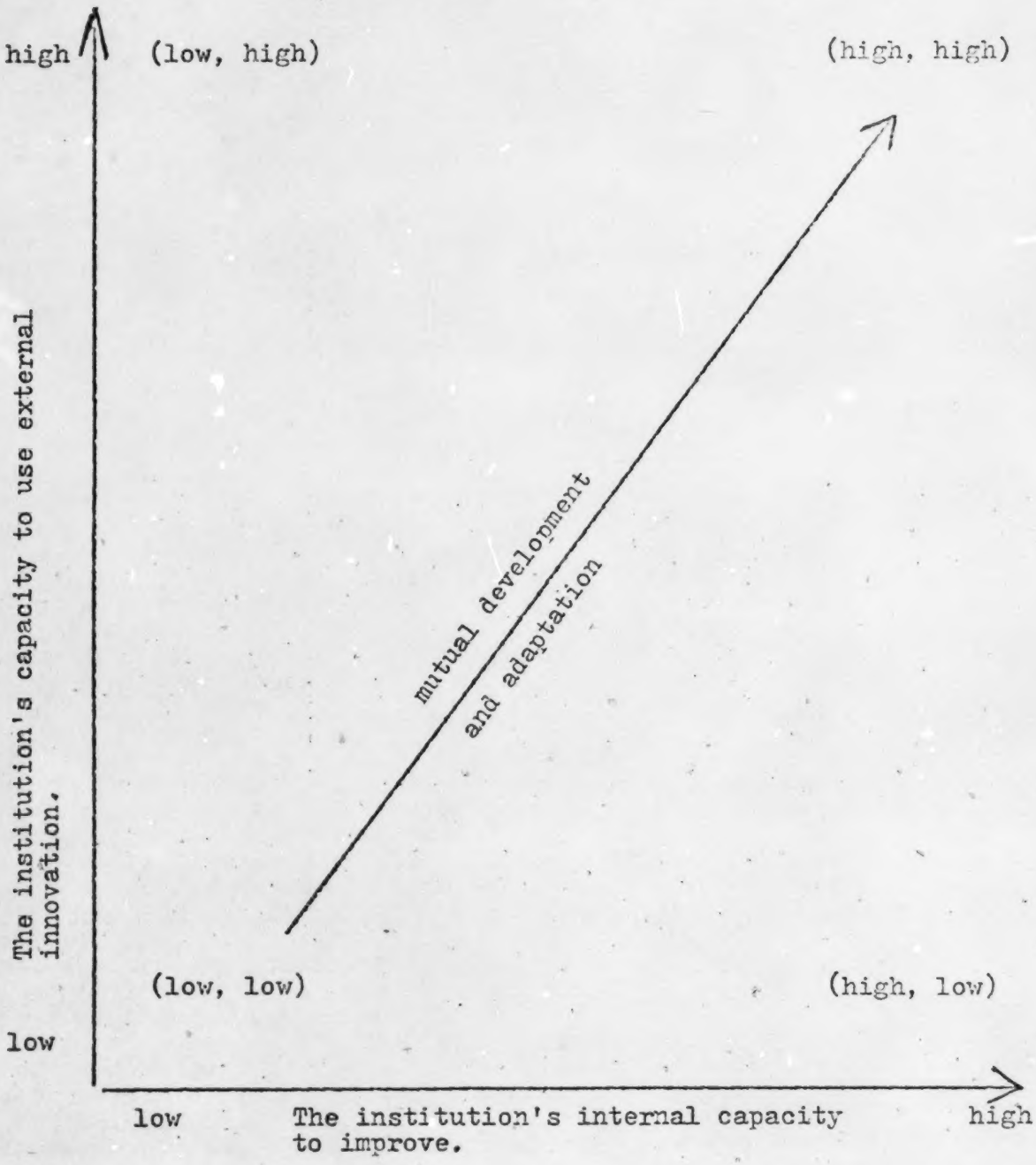
Position (high, low): There is high institutional awareness of innovative needs, low acceptance and rejection of external demands, little sensitivity to policy decisions, high motivation within the institution and high degree of ownership of the innovations. This position could be called maximum internal creativity.

Position (high, high): The institution has, at the same time, a high capacity for both internal creativity and understanding and use of external ideas. The institution can manage changes over a short time, there is high motivation, high ability for resolving conflicts within the institution and in the relationship to the environment, and a multiple set of strategies are used to cope with the situation. In spite of the fact that there is to a great extent acceptance of ideas from outside, the institution has a high degree of ownership in its practice. It is not assumed that compromise-solutions are the necessary results. This position we would call mutual adaptation and development.

Comments. It is possible to see the so-called "high, high" institution in an institutional and economic growth period, by giving "everyone a bit more". If changes imply alterations in values and power in a "status quo" or "declining" system it is likely more difficult to reach the same change capacity. We do assume, however, that a re-allocation of existing resources can often be done and create the conditions for change acceptable to the institution and its environment. We should like to stress that our theory assumes that "innovation-capacity" is not merely a technical capacity, but highly related to values. An institution can "react" very differently to different types of challenges, partly due to the degree of "fit" between the institutional and environmental values. Nevertheless, we assume that the innovation-capacity is also related to technical dimensions like leadership, conflict-resolution, skills, resources, etc.

Figure 1

MUTUAL ADAPTATION AND DEVELOPMENT



## BARRIERS TO EDUCATIONAL CHANGE(1)

Most research on the change process shows that there is a wide gap between policy intentions and implemented reforms and, in fact, between the innovation as "adopted" and the innovation as implemented or institutionalised. This is quite natural in some sense because it takes considerable time to implement significant educational reforms and policy makers, users, the environment and the institutions are different at the time of implementation than at the early stage of problem identification.

Another reason for this observed discrepancy is suggested by the preceding discussion of the central characteristics of an innovation. That is, the institutional setting and the motivations of individual actors have a significant impact on the implementation of reform, particularly the complex, central and difficult change proposed in the instance of higher education. As a consequence, when innovation is successful, it has usually been adapted to suit local conditions, needs and preferences; as the institution makes the changes in practice behaviour and attitudes necessary to implement the reform, the innovative plan itself is modified (or mutates) to meet the requirements of the institutional setting.

There are a number of elements and forces particular to each institutional setting, that shape this process of implementation and so influence the outcome of innovative projects. At one level, it is possible to think of barriers to reform generated by the broad objectives of the reform or particular innovative project. At another level it is possible to identify constraints and realities with which local implementors have to deal when translating the objectives of post-secondary reform into practice.

### 1. Value Barriers(2)

People have different values. Some might understand these as differences of social and economic interest, still others will explain them as basic, intrinsic values arising from varying relationships to the culture. Many educational reforms imply a shift in values. A change from a highly selected educational system to a comprehensive system, for example, a trend of students implies a change in the function of these institutions. A shift from "professional quality goals" towards "equality goals" requires a change in the value basis for the institutions.

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(1) Most of this section is taken from: Dalin, P., Case Studies of Educational Innovation, Vol. IV.: Strategies for Innovation in Education, OECD, Paris, 1973.

(2) For a full discussion of the barrier-concept, see Dalin, P., Strategies for Educational Innovation, Case Studies of Educational Innovation, Vol. IV, Paris, 1973.

There are goal conflicts in this case. Can academic goals be fulfilled at the same time and at the same rate as the social goals? Can, indeed, both types of goals happen equally well through the university institution? Which of these goals have backing within the institution? Is it possible that the values of academic reform will have predominance over social reform? Let us assume that the goal of social reform is predominantly represented by politicians outside the institution. To what extent is it possible to implement such a reform without support within the institution?

How can support be created and what strategies should be used?

Since educational reforms imply changes in values we are facing a classic dilemma in the change process. The individual's rights to perform within his framework of values opposed to values represented by society or the institution in which he works. Most reform efforts do not openly discuss this dilemma. Quite often, coercive strategies or even worse, "re-educative" strategies are used to change values and assumptions of individuals working within the system. No reform will be successful without changes in norms and values. Reforms are equally dependent on the involvement of those who are going to implement the innovation. How can the two be reconciled?

2. Power Barriers

The way we characterised post-secondary reform implies a redistribution of power and resources - changes in power relationships. Traditionally, institutions of higher education have had considerable autonomy. Their task has been to secure professional development in terms of research and training. Within certain defined economic and legal limits the institutions have had considerable freedom to determine their own practice. Reforms under discussion today challenge this autonomy to a considerable extent. The environmental pressure for change is coming, in particular we assume from politicians, possibly through the Ministry of Education.

Normally, an institution usually reflects demands from the environment simply because its existence is dependent on its ability to reflect these demands. Institutions of higher education have considerable autonomy but at the same time their resources come from the State, i.e. a source that so far has had little direct control on the practice of the institutions. Universities could, for a long time, neglect pressures from the environment (e.g. student, industry, etc.) and at the same time maintain their economic support from the government. This is no longer the case since the public has become uneasy with the situation in higher education, which, again, is reflected in their political preferences. Institutio

of higher education are therefore vulnerable and political and administrative bodies do increasingly influence the practice of the institutions. This, indeed, changes the power relations between the institutions and their environment.

The case of post-secondary reform also illustrates power barriers within the institutions. Innovation in academic structure and content often threatens secured positions. An interdisciplinary approach to problem-solving, for example, reinforces the needs for cooperation and new organisational structures that threaten traditional authority and decision-making roles. There is also an extra differentiation of interest groups within a large university. Even within a department, various interest groups are compartmentalised into professional specialities. In some sense, the organisation reflects the way "knowledge" is defined. A redefinition of knowledge (.eg. an interdisciplinary approach) will meet a number of constraining factors, many of them reflecting power barriers within the institution.

## 3. Barriers to Implementation

In addition to these barriers to reform, which exert influence throughout the process of innovation (i.e. initiation, implementation and institutionalisation), there are other constraints, conditions and problems that must be confronted during the process of implementation. Some of these are constraints and conditions imported from the outside; others are problems and realities that are internal to the institution. Among those that appear most important in the case of post-secondary reform are:

- Time
- Knowledge
- Level of organisational development
- Integration of incentives
- Multiplicity and specificity of objectives
- Resources

Time. We know that social change takes time, but the pressures for change are such that unrealistic demands are placed upon the institutions. As a result, undesirable compromises are made which cause problems for individuals and groups in the institution, as will the innovative effort itself. Furthermore, as the Carnegie Commission notes, the time pressures faced by European nations are even more severe than those in America:(1)

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(1) The Carnegie Commission on Higher Education, Reform on Campus, New York, McGraw Hill, 1972, p. 106.

"Europe seems to be faced with an even more difficult task than the United States in trying to reform its higher educational system; it has to undertake many of the reforms that America has implemented progressively for almost 100 years, and it must, at the same time, introduce patterns of higher education in response to the needs that America also faces at this point in history."

Knowledge. Implementors of innovation in higher education are generally faced with a lack of knowledge about effective practices or the consequences of alternative plans. First, it is hard to find research data that can provide a basis for the planning of education reforms. In many instances we do now know "what is better". This is true both because more basic research has failed to prove the advantages and disadvantages with different approaches and because innovative programmes often lack reliable data. It is difficult indeed to measure the outcomes of educational programmes and, therefore, hard to assess the advantages and disadvantages of one approach compared to another.

Not only is there a dearth of relevant research, but what research does exist is often presented in ways that are not helpful to local innovators. Institutions interested in instituting innovation are more concerned with obtaining information about how an innovation can be installed and implemented. They are interested in finding out what problems are involved in implementing a particular innovation, what solutions were found by previous users, what the recommended methods of implementation are, what resources are required and what risks are involved (Cohen, 1973; Gross, 1971; Carpenter-Huffman, et. al. 1974). In general, local innovators want information that reduces the amount of uncertainty that comes with implementing innovation - data that the previous research, focusing almost exclusively on "impact" analysis, has failed to provide.

But, second, and even more important in our view than the deficits in the general "state of the art", is the fact that most institutions lack internal experience or knowledge about innovation. These internal deficits are particularly significant in light of the growing evidence that would-be innovators do not "search" outside of their institutional setting for new ideas or innovative designs. The Rand Change Agent Study, for example, found that local personnel seldom made an effort to identify exemplary practices outside the district. Rather, local ideas - or ideas brought to the district by local staff - were used to formulate a project. Other studies (e.g. Carlson, 1971; Cohen, 1973; and House, 1974) also found that educators based their decisions to adopt innovations as well as their designs not on information provided by research, or central disseminating agencies, but on the information provided by their peers.

We believe it is possible that local innovators do not search outside their institutional setting for "better" treatments or strategies because, intuitively, they feel that the success or suitability of innovation depends primarily on local conditions (a view strongly supported by the Rand Change Agent Study). Thus, local innovators are likely to be cautious about the reported "success" of educational methods elsewhere and tend to rely on the advice of local professionals who have a thorough knowledge of particular local conditions.

Level of Organisational Development. Closely related to the internal deficits in the knowledge necessary to well informed implementation efforts, is the fact that institutions, and individuals within institutions, vary in their level of development, or their capacity to implement change.

It has always been understood that educational change is dependent on the competency of the people involved. In-service training schemes and other approaches have been used for up-dating knowledge and skills. Studies of the change process show that introducing new roles and behaviour is far more complex than earlier anticipated, and requires extensive new learning. Strong tradition has to be replaced by new practice; individual and organisational investment in the "old" system of behaviour will have to be altered. For reasons such as inherent personal or psychological limitations to growth, inappropriate incentive structures, or inappropriate training services, it is often not possible to move all participants in the direction of the proposed reform.

What has not been so well understood or explored is the fact that institutions, like individuals, display different capacities and levels of development. Institutions of higher education can be expected to have different demands for change, different abilities to plan and carry out change, and different needs and problems. Similarly, they can be expected to have different implementation problems for the same "class" of innovation. As a result, different institutions would be capable of beginning an innovative project at different levels, implementation would proceed at a different pace, and, not surprisingly, the outcomes in these settings would vary in the same period of time. The different levels of individual capacity to innovate raise a "micro" problem for local innovators; the differences in institutional capacities presents a "macro" problem for central planners - who tend not to differentiate their expectations for the local accomplishment of change.

Ingrating Incentives. Over several years, individuals and groups within the institution have built up an incentive structure with the purpose of reinforcing activities related to desired outcomes. Sometimes the existing incentive structur

has already become obsolete but it is sometimes dramatically clear in an innovative setting that existing incentive structures have a negative influence. To commit oneself to an innovation, therefore, might in practical terms mean to lose prestige, career possibilities, economic resources and partnership. It is necessary, then, that new incentives appropriate to the proposed reform become integrated into on-going institutional practice and relevant structures if significant or enduring change is to be achieved.

Multiplicity and Specificity of Objectives. As we have seen, post-secondary reform plans have multiple objectives, often in conflict with each other. Conflicts are seldom clarified, at least not in the early stages of an innovation. In fact ambiguity seems to be an important political and organisational strategy. When it comes to implementation it becomes obvious that the reform could work at cross purposes (e.g. while reduced class size may help achieve goals of academic equality for some of the new students the system hopes to serve, the reduction of class size also conflicts with needs to economise).

In addition to lack of clarity concerning the priorities attached to these multiple objectives, there is also a problem of lack of specificity at an operational level. For many reasons - primarily political and pedagogical - would-be innovators are typically charged with fulfilling an objective no more specific than "improve the instruction of language skills". In what area of skill acquisition? How much improvement is expected? How is it measured? Questions such as these - questions about the operational specificity of the objectives of reform - have long plagued planners, implementors and administrators.

Resources. It is sometimes difficult to see the effective or operational relationship between high pressure for innovation and the resources available. The implementation and institutionalisation of new practices typically demand considerably more resources than are used to support the existing practice. Resources are declining at the same time as the demand for access and opportunities are higher than ever before. For the responsible faculty members and administrators, this conflict comes down to very practical questions of limitations in available faculty, facilities, and extra resources for new programme development. Even in a situation in which radical reallocation of existing resources is secure, lack of resources is a serious constraint for innovation that is not likely to be removed in the forseeable future.

4. Psychological Barriers

Earlier research on the change process has defined "resistance to innovation" as a somewhat undesirable phenomenon. This note has most likely been derived from

definitions of "innovation" in other areas such as medicine and rural sociology. As this term is typically used, it implies "resistance" to the adoption of a new product. Resistance to innovation in education, however, is more accurately thought of as unwillingness to engage in the process of change. In addition to the three types of barriers discussed above we also recognise what we would call "psychological barriers".

By a psychological barrier, we mean in this context, that resistance to change in spite of the fact that the individual agrees to the value implications of the innovation, is not negatively influenced by redistribution of power and has no major objections in terms of its practical consequences. Changes in behaviour are energy in the final analysis, often not sufficient to pay for the risk involved. Unclarity about what the innovations really mean reinforces the status quo. The conclusion might be that it is more comfortable or safe to stay within established structures and expectations than to move to what is considered "unknown".

We do not find psychological barriers to be the most important or the most serious obstacles in educational reform. What is important to note, however, is that most resistance to change is hard to define and can easily be looked upon as "psychological resistance". Then, basic problems related to the innovation itself, or the process by which it is implemented, are overlooked with possible serious unintended effects. It is true, of course, that the "barrier-phenomena" in reality can hardly be put into any "typology" of barriers. There are overlapping dimensions of any phenomena that one could call a barrier.

## ORGANISING EDUCATIONAL CHANGE

Our educational institutions have been created as a response to growing needs for educational and social services. Educational institutions with today's quality and complexity are quite recent phenomena in our history. Over the last fifty years, in particular during the last two decades, educational institutions have grown rapidly. The present educational structure and its administration is a reflection of this pattern of growth. We are today in many Member countries experiencing much slower growth rate and, indeed, decline in many sectors including teacher training. These phenomena pose new and difficult problems in coping with educational renewal. It does, however, also create an impetus to change that needs to be studied in greater depth.

We have studied alternative educational organisations and their impact on educational reform in another context(1).

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(1) Dalin, P., Limits to Change: The Management of Educational Change. Chapter 6, Organising Educational Change (in process).

We have not found any one approach to organisation in general terms more valuable than another. It is necessary to relate organisational approaches to both tasks and settings. By "setting" we mean in addition to the institution as such also its environment and the relationships between the environment and the institution. In such an analysis one is faced with a number of dilemmas that we have earlier outlined as follows:

(i) To create a system whereby central and local political control over educational development can be maintained and, at the same time, create a system whereby each individual in the educational system and its environment has real possibilities for alternatives and influence over his or her own development. We see this challenge, not only as an organisational or technical question, but as a basic question facing our Western societies today. If our institutions shall effectively be able to face this problem, we might need to analyse the structure of society, the relationship between the public sector and the world of work and the relationships among the various tasks and organisations.

(ii) Although the organisational structure should have the capacity for change it should also have stability over time. There are legitimate and basic needs for stability, as well as need for change. Large bureaucracies will not easily change their structure or behaviour. How can organisational structures be maintained while educational opportunities change?

(iii) Our organisational model should be able to deal with all different types of change (see typology above). This means that basic changes in structures should be possible, as well as, for example, changes in programmes and role relationships. This does not mean, however, that the strategies for change would be the same independent of the type of change we are talking about. On the contrary, the organisational model should have an inbuilt capacity for understanding and analysing the critical factors in any change situation to allow for a variety of approaches to change. This, however, is another basic problem. The organisational structure is a powerful instrument in the definition of a problem. What is a "priority", who has the right to be an "expert", and what types of incentives are used? In general, how the organisation becomes concerned about change is, to a large extent, dependent on the organisational structure. How, on the one hand, is it possible to have one type of organisation and at the same time be open to conflicting priorities and widely different types of change?

(iv) We are also seeking for an organisation that allows for alternative perspectives. As we have discussed earlier, most organisations have a tendency to create one dominant perspective. In such a situation, means and methods become goals and "problem-solving" becomes a legitimatising device for the dominant interests. How is it possible to create an organisation which creates real possibilities for alternative perspectives to be taken into account?

(v) We need "creative schools"(1). Several factors internal to the school, and in its relationship to the environment need to change if the schools as institutions are to be in a better position to manage the change process. One possible solution is to give more autonomy to the individual school. The basic question that has to be solved is: how much freedom or local differences can be accepted if equality of educational opportunity should remain one of the major national goals of the educational system?

(vi) Major changes in organisations are difficult to achieve and in most cases require investments both in capital and personnel as well as knowledge and skills. Any organisational model will have to take the question of technical capacity and support into account. So far, this capacity has usually been centralised to research and development units, planning organisations and the like. These organisations have mostly served the top decision-making level. Do we have examples of alternative ways of building technical capacity? How can one avoid centralising power in organisational units with specialised skills?

(vii) The educational system, as any other organisation, relates itself to the environment, in particular to specific organisations in the environment with mutual or conflicting interests. In the educationl system, for example, interest organisations are organised parallel to the formal system. Teacher unions are such examples. If we have a situation in which the educational system is highly decentralised, and teacher unions highly centralised, this will have a rather significant impact on the educational organisation. An organisational model, therefore, cannot be developed in isolation from related organisations in

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(1) In a report from a seminar on "Creativity of the School", CERI has discussed the question of creativity and some of the factors looked upon as crucial if schools are to be more able to cope with the challenge of change (Creativity of the School, CERI/OECD, 1973).

the environemnt. How is it possible, on the one hand, to be open to the environment and, on the other hand, protect the system from powerful interventions from organisations not formally accountable in the educational system?

(viii) All organisations are in one way or another seeking to limit future uncertainties. We have seen that central planning and control measures are not sufficient. Local "autonomous" schools coping with their immediate environment have a low ability to limit many uncertainties that go beyond local forces. What is the organisational structure that optimises the possibilities for learning about the future?

## TOWARDS A SYSTEMIC LEARNING ORGANISATION

In our search for new organisational patterns we shoul be more concerned with the questions above rather than specific solutions to the problems. Needless to say, it is neither possible nor desirable to construct a common organisational model for all teacher training institutions. As we have indicated above, the complex organisation in a dynamic environment will have to reflect several basic issues if it is going to find adequate solutions to contemporary and future problems. Moving from a stable to a dynamic situation would mean that the organisation is moving from being primarily a goal-oriented organisation to a survival-oriented organisation. It is no longer possible to think that one can prescribe certain objectives and goals for the organisation as the main guidelines for the activities. Unforeseen problems, new situations and future uncertainties increasingly make it necessary for the organisation to constantly re-address itself to the problems. The organisation has to reflect daily realities in the environment and the goal-hierarchies become of secondary importance.

Needless to say, it is impossible to organise educational change without conflicts. We believe, therefore, that it is important to recognise the following:

1. Due to the nature of social systems, composed of individuals and groups with different interest and needs, any major change will raise questions of values and power and will, therefore, create conflicts.

2. There is no one best way to organise the process of change, but the way conflicts and processes are handled is a major determinant for successful implemenation.

3. Different tasks (e.g. teaching, research, student counselling, etc.) demands different organisational

solutions. Task-conflict quite often results in organisational conflicts. Only a study of the relationships between the means and the tasks and the settings will give some clues to more successful management.

4. Since all social systems, including teacher training institutions, are "systemic", i.e. everything to some extent hangs together, the greater the differences of tasks the more likely are the inherent and legitimate conflicts.

5. A number of problems and conflicts within an institution are not necessarily inherent in the task or legitimate. Through a deeper understanding of the organisation and its environment, it is possible to find new and better ways of managing change within the organisation.

## Guide to Institutional Learning

We are fully aware that the paragraphs above have probably raised more questions than they have answered. We hope that those readers who are interested in a deeper understanding of the theory behind this work will request further articles for in-depth study. We would also be happy to discuss the development of this theory in our on-going work, particularly at the international seminar Training for Change (5th-11th December, 1976). The relatively brief outline of some of the theoretical assumptions given above has been developed to give each staff member some background for understanding the activities that we have proposed.

At this stage we would like to discuss some aspects of the conceptual framework that have led us to the survey "Guide to Institutional Learning" (GIL). The figure below illustrates the dimension and the relationships that we would like to explore further in the survey:

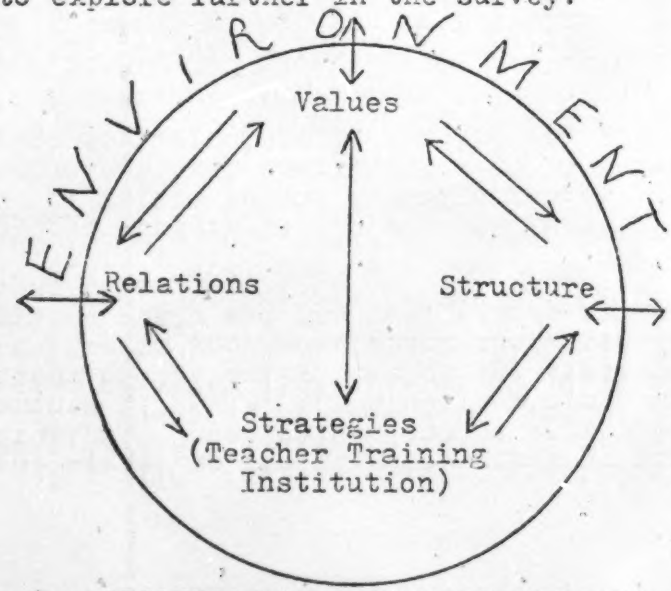


Figure 2: ORGANISATIONAL INTERDEPENDENCIES

Values: refer to the purpose, goals or mission of the institution. Those values can be expressed by formal statements of goals, but also they are expressed in the realities of the daily work of the institution. We should like to know more about the potential gap between the stated goals and the real values reflected in organisational behaviour.

Structure: refers to the way the institution is organised. Again, it refers to the formal organisation, more or less the organisational chart, but also it refers to the degree to which the structure is functioning within the institution.

Relations: refer to the relationships between individuals and departments within the institution. We are interested in the quality of relations, the climate of the institution and the modes of conflict management.

Strategies: refer to the mechanisms and methods for managing the institution. the reward structure, procedures for renewal and evaluation and the procedures for keeping values, relations and structures in balance.

Environment: refers to individuals, groups and institutions outside the teacher training institution. In particular, we are interested in the forces at work in the environment including changes in values, the relationships between your programmes and demands from the environment, relationships between individuals (including leadership) and groups in the environment, in particular relations between teacher training institutions, schools and school districts and central administration.

In the study of your institution, we would like to explore the relationships between values, structure, relations, strategies, and the environment. We can only, of course, illustrate these relationships by using your perception of the situation. In view of the fact, however, that all staff members (and, in most cases, a sample of students) will be thinking about these relationships through the survey developed for the GIL, we do believe that some very useful perspectives will be developed.

The GIL and the MAP

What is the relationship between the Guide to Institutional Learning (GIL) and the Management Analysis Paper (MAP)? The GIL is basically an analysis of your institution: how it functions daily with the tasks that you are engaged in, including "routine tasks" and "innovative tasks". In the GIL we are interested in the daily capacity of your institution in dealing with the demands related to your mission.

In the MAP we will not be dealing with critical issues of a general nature within your institution. The MAP mainly follows one particular innovation from its initiation to the stage of today's development. The MAP will illustrate the many problems of managing a particular change project in a teacher training institution. It does not deal with the many organisational relationships in general, but only how a particular innovation process influences the life of the institution, and on the other hand how the innovation is changed over time by institutional processes.

## The IMTEC Case Study

As you know, a few case studies will also be developed in the IMTEC teacher training programme. The purpose of these case studies is again different from the GIL and the MAP. Following the national meetings this spring, we will identify several critical processes that representatives of the institutions consider important in general at this stage of development. The international steering committee will then select a few case studies of innovations in the network that illustrate the problems and potentials as they relate to a given theme. These cases will primarily be developed to facilitate the international discussion around the themes selected.

## The International Seminar (5th-11th December, 1976)

The international seminar will focus on the organisational dilemmas in teacher training institutions (the GIL experience), on problems of managing changes (the MAPs), and on critical processes facing teacher training institutions today (the case studies). Finally, the seminar will address questions concerning future international cooperation among teacher training institutions in the network.

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